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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,663	03/18/2004	Masuhiko Natsuhara	39.035	2662
29453	7590	01/18/2006	EXAMINER	
JUDGE PATENT FIRM RIVIERE SHUKUGAWA 3RD FL. 3-1 WAKAMATSU-CHO NISHINOMIYA-SHI, HYOGO, 662-0035 JAPAN			PAIK, SANG YEOP	
			ART UNIT	PAPER NUMBER
			3742	
DATE MAILED: 01/18/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/708,663	<b>Applicant(s)</b> NATSUHARA ET AL.	
	<b>Examiner</b> Sang Y. Paik	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burkhart et al (US 6,469,283) in view of Ito et al (WO 02/084717) or Kawanabe et al (US 6,133,557), and Yamaguchi et al (US 6,376,811).

Burkhart shows the ceramic susceptor claimed having a retaining side, a plurality of concentric circular heating elements providing a plurality of discrete heating zones formed in the ceramic susceptor, and a lead circuit formed on a different plane or surface than the surface on which the heating elements are provided. However, Burkhart does not show the claimed laminate composed of a plurality of ceramic sheets and the electrodes formed inside area of the resistive heating element and connected to the lead circuit.

Ito and Kawanabe show that it is known in the art to make a ceramic susceptor comprising a plurality of ceramic sheets to make the ceramic susceptor with the heating elements and the electrical connections provided in the ceramic susceptor to provide an uniform heating surface. Ito further shows the electrical junction, and Kawanabe further shows that the susceptor is made of aluminum nitride with the sintering aids including yttrium in .001 to 1 wt %.

In view of Ito and Kawanabe, it would have been obvious to one of ordinary skill in the art to adapt Burkhart with the ceramic susceptor made of the laminate of the plurality of ceramic

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sheets to make a thermally stable ceramic substrate that can withstand a high temperature and also to provide a uniform heating across its heating surface.

Yamaguchi shows the electrodes (8, 9) provided in the center of the heating device and connected to the lead circuit (5, 6). In view of Yamaguchi, it would have been obvious to one of ordinary skill in the art to adapt Burkhart, as modified by Ito and Kawanabe, to form the electrodes in the center of the susceptor to route the lead circuits and corresponding electrodes as an alternative arrangement to conveniently make the electrical power connection to the heating elements.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burkhart in view of Ito, Kawanabe and Yamaguchi, as applied to claims 1-5 and 7-15 above, and further in view of Kojima et al (US 4,733,056) or Nozaki et al (US 5,264,681).

Burkhart in view of Ito, Kawanabe and Yamaguchi shows the susceptor claimed except the lead circuit having smaller resistance than the heating circuit.

Kojima and Nozaki show it is well known in the art to having a lead circuit or lead wire having a resistance made smaller than the heating element so that heat is not generated in the lead circuit. In view of Kojima or Nozaki, it would have been obvious to one of ordinary skill in the art to adapt Burkhart, as modified by Ito, Kawanabe and Yamaguchi, with the lead circuit having less resistance than the heating element to provide the current without generating substantial heat along the lead circuit.

#### ***Response to Arguments***

4. Applicant's arguments filed 9/30/05 have been fully considered but they are not persuasive. The applicant argues the applied prior art does not show the recited electrodes

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connected to the lead circuit and formed inside the area in which the resistive heating element is formed. The Yamaguchi reference is applied to teach this recitation wherein it shows the lead wires (5, 6) with the electrodes (8,9) connected to the lead wires and formed inside the area in which the heating element is formed. Figure 1 of Yamaguchi clearly illustrates this arrangement. Thus the applicant's arguments are not deemed persuasive.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y. Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sang Y Paik  
Primary Examiner  
Art Unit 3742

syp